Please read and save these instructions. Read carefully before attempting to assemble, install, operate or maintain the product described. Protect yourself and others by observing all safety information. Failure to comply with instructions could result in personal injury and/or property damage! Retain instructions for future reference.

Dayton® Professional-Duty Electric Generators

Description

Dayton professional-duty generators are rugged and compact to provide dependable, trouble-free service. The alternators are brushless with revolving fields. Briggs and Straton gasoline engines provide long life under heavy use. These engines are governed to maintain engine speed of 3600 RPM under load. 3600 RPM engine speed provides 120/240V, 60 Hz power. Additional features include circuit breaker protection, large fuel tank, oil alert system, and electric starter (Model 5U935A only).

Figure 1 – Model 5U935A

Figure 2 – Models 5U933A and 5U934A

Unpacking

1. Remove generator from carton.
2. Remove any protective packaging applied to generator for shipment.
3. Check for loose or missing parts. Check for shipping damage. If any parts are missing or damaged, promptly inform dealer where you bought generator.
4. Battery cables are supplied for Model 5U935A only. These cables are in a separate bag inside generator carton. You must install these cables to engine. See *Battery,* page 7 for installation instructions.

Form 5S3592

Printed in U.S.A
03430
0899/293/VCPVP

Dayton® Professional-Duty Electric Generators

Specifications

ELECTRICAL SPECIFICATIONS

Model	Rated Wattage*	Maximum VA	Rated Amperage 120V	Rated Amperage 240V
5U933A	4000	5500	33.3	16.7
5U934A	5000	6500	41.7	20.8
5U935A	7000	9000	58.3	29.1

(*) Single-phase, 1.0 power factor.
NOTE: Ratings apply to SAE standard conditions. Reduce ratings 3 ½% for each 1000 feet above sea level and 1% for each 10° Fahrenheit rise above 60°F.

GENERAL SPECIFICATIONS

Model	Briggs & Stratton Engine HP	Briggs & Stratton Model	Fuel Type	Fuel Tank Capacity	Oil Alert System	Electric Start	Weight (pounds)
5U933A	9	Vanguard	Gasoline	5 gal.	Yes	No	130
5U934A	11	Vanguard	Gasoline	5	Yes	No	181
5U935A	14	Vanguard V-Twin	Gasoline	5	Yes	Yes	263

RECEPTACLE SPECIFICATIONS

Model	120V Duplex	120V GFC1	120V, 30-Amp Twist-Lock	120/240V, 20-Amp Twist-Lock	120/240V, 30-Amp Twist-Lock	120V Full Power Switch	Hour Meter
5U933A	Yes	Yes	Yes	Yes	No	Yes	Yes
5U934A	Yes	Yes	Yes	Yes	No	Yes	Yes
5U935A	Yes	Yes	Yes	No	Yes	No	Yes

ELECTRICAL COMPONENT SPECIFICATIONS

Model	Resistance in Ohms: Stator Main Winding *	Stator Auxiliary Winding Δ	Rotor Primary Winding †	Rotor Secondary Winding †	Capacitor, MFD 450 Volt	Diodes (2) 800 Volt
5U933A	0.71	2.17	0.54	2.07	40	70 Amp
5U934A	0.54	1.38	0.61	2.29	50	70
5U935A	0.28	0.78	0.77	2.9	70	70

(*) Connect T2 (green) and T3 (black). Measure resistance between T1 (red) and T4 (yellow).
(Δ) Resistance between brown and white leads.
(†) Remove diodes to check resistance.

105966

Models 5U933A, 5U934A, and 5U935A

Product Identification

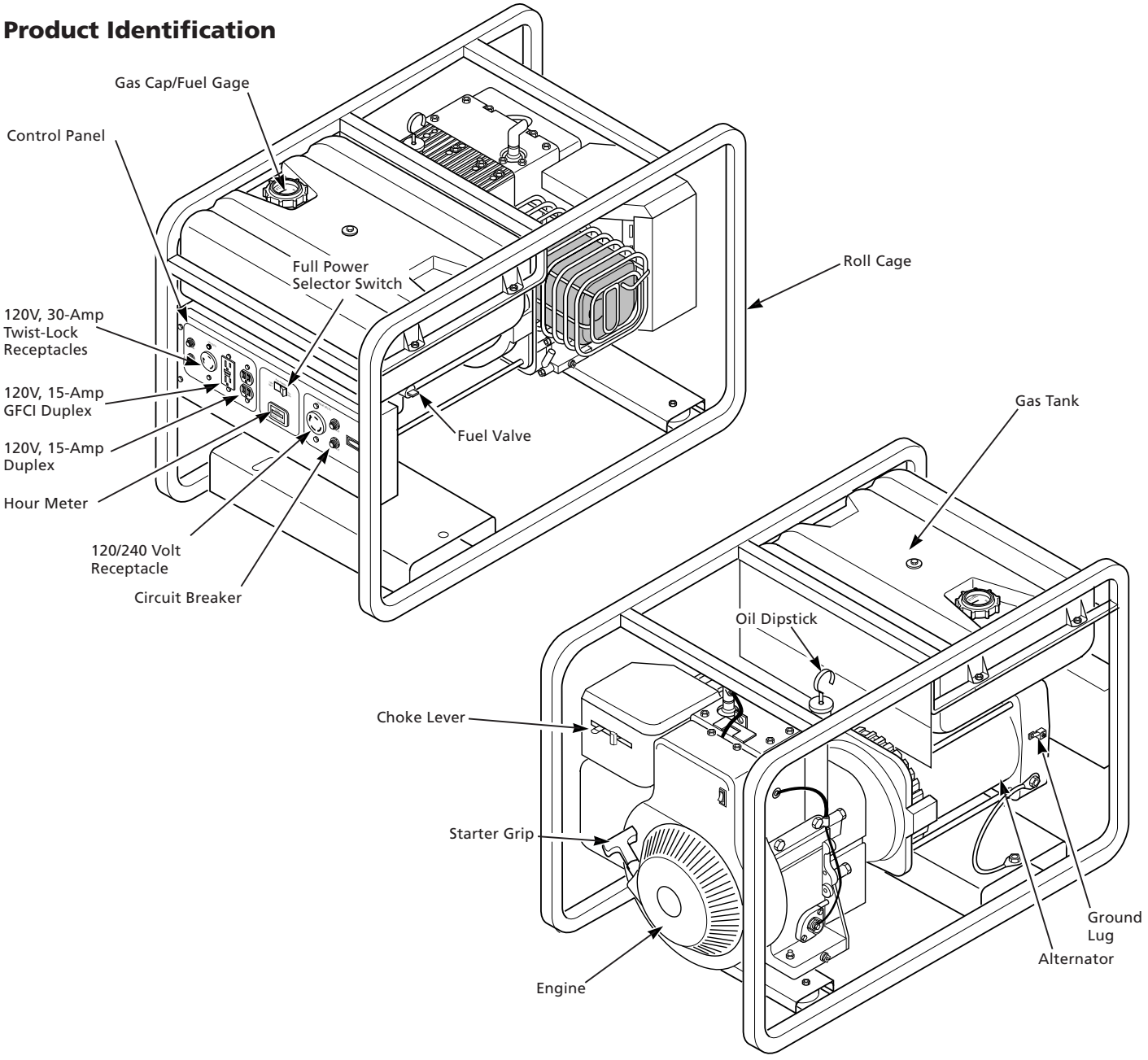

Figure 3 – Models 5U933A and 5U934A Portable Generators

Dayton® Professional-Duty Electric Generators

Product Identification

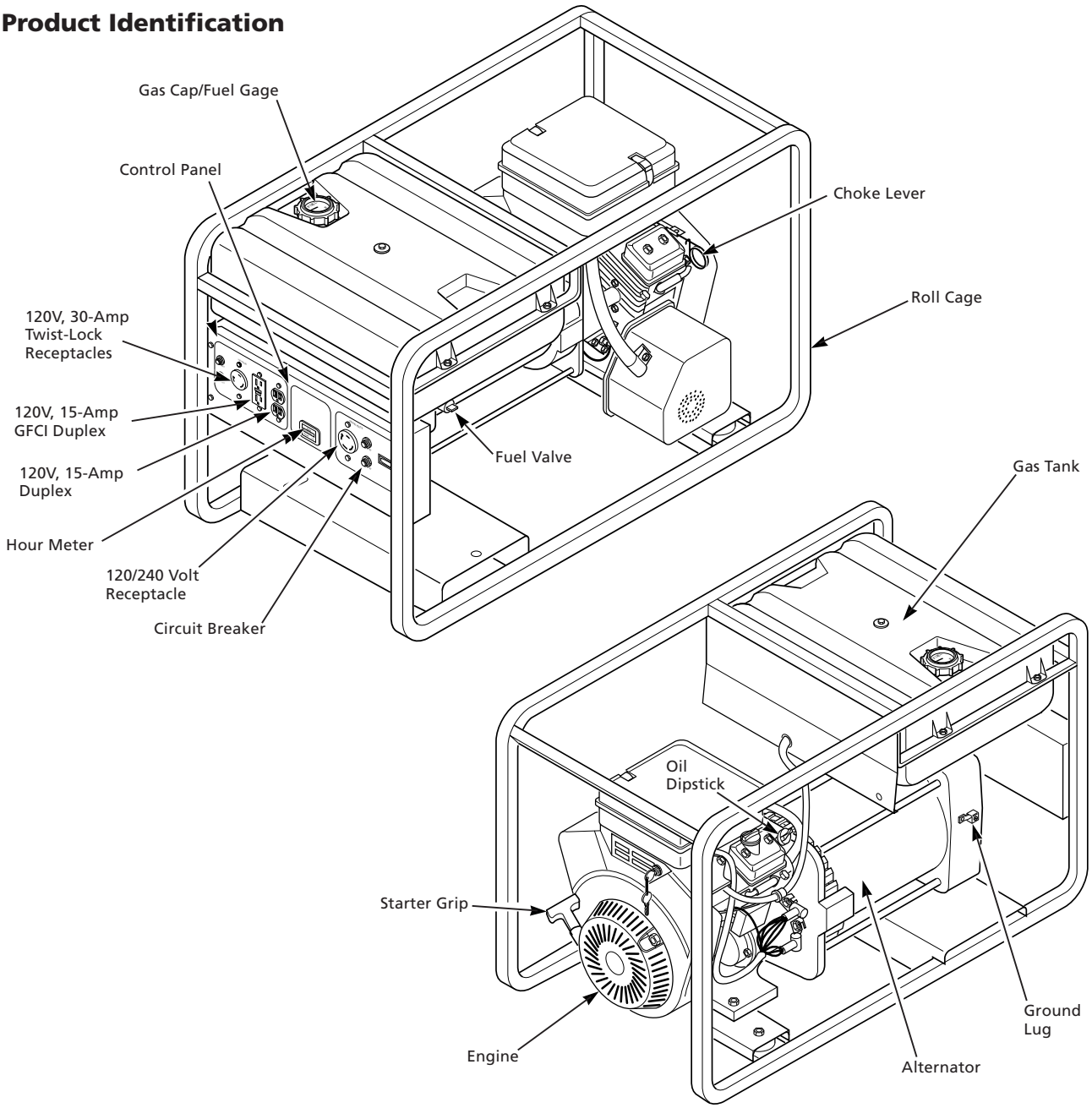

Figure 4 – Model 5U935A Portable Generator

105966

Models 5U933A, 5U934A, and 5U935A

General Safety Information

IMPORTANT: Read these instructions and engine owner's manual carefully. Become familiar with generator before trying to operate or service it. Know its uses, limitations, and any hazards involved. Improper use of generator can cause severe injury or death from explosion, fire, burns, electrical shock, or carbon monoxide poisoning.

Make certain you read and understand all warnings. Keep these instructions for reference. They are your guide to safe and proper operation of this generator.

Safety information appears throughout these instructions. Pay close attention to them. Below are definitions for the safety information listed throughout this manual.

IMPORTANT: Every possible circumstance that might involve a hazard cannot be anticipated. The warnings in this manual and on tags or decals affixed to the unit are therefore not all-inclusive. If a procedure, work method, or operating technique not specifically recommended by Dayton is used, you must make sure it is safe for you and others. You should also ensure that equipment will not be damaged or made unsafe by the operating or maintenance method you choose.

NOTE: Under this heading statements will be found emphasizing installation, operation and maintenance procedures that either simplify procedures or increase efficiency.

⚠ DANGER Under this heading, installation, operating, and maintenance procedures or practices will be found that, if not carefully followed, WILL result in IMMEDIATE serious personal injury or death.

⚠WARNING Under this heading, installation, operating, and maintenance procedures or practices will be found that, if not carefully followed, COULD result in severe personal injury or death.

⚠ CAUTION Under this heading, installation, operating, and maintenance procedures or practices will be found that, if not carefully followed, MAY result in minor personal injury, product or property damage.

⚠ DANGER ***Engine exhaust contains poisonous carbon monoxide gas. Overexposure will cause loss of consciousness and will lead to death. Use only in well-vented areas. Make sure area has plenty of free-moving, fresh, outside air. Never run generator in an enclosed or confined area. Never run generator inside occupied building.***

Early signs of carbon monoxide poisoning resemble the flu, with headaches, dizziness, or nausea. If you have these signs, get fresh air at once! Some people are more affected by carbon monoxide than others. These include pregnant women, persons with heart or lung disease or anemia, those under the influence of alcohol, and those at high altitudes.

⚠WARNING ***Gasoline presents a hazard of fire or explosion. Gasoline is flammable. Its vapor is explosive.***

- ***Keep fuel out of children's reach.***
- ***Refuel generator in a well-vented area. Do not fill fuel tank in the dark. Do not refuel while engine is running. Unhook all electrical loads and shut off engine before refueling.***
- ***Do not overfill fuel tank. Always allow room for fuel to expand. If you overfill tank, fuel can overflow onto hot generator or engine surface. This can cause fire or explosion. After refueling, tightly close fuel tank cap.***
- ***Do not spill fuel. Fuel or fuel vapor may ignite. If fuel spills, make sure area is dry before starting engine.***
- ***Never smoke in refueling area. Never allow open flames or sparks in area.***
- ***Store fuel in approved container. Store fuel in a well-vented area free of open flames or sparks.***

⚠WARNING ***Guard against fire hazard. Keep operation area well-vented. Keep generator at least three feet away from any object. Do not place flammable objects near generator.***

- ***Do not use generator where flammable vapors are present. Some vapors are heavier than air. These vapors settle in low-lying places.***
- ***Do not use generator in enclosed spaces. This includes motor home or RV generator compartments.***

⚠WARNING ***Guard against electric shock. Generator produces high voltage. This high voltage can cause severe electric shock. Only responsible adults should use the generator.***

- ***Properly ground generator before starting.***
- ***Never let anyone operate or service generator without proper instructions.***
- ***Avoid contact with live terminals or bare wires.***
- ***Do not use generator outdoors in rain or snow.***
- ***Do not use generator near standing water or snow.***
- ***Do not use if generator is wet or damp.***
- ***Do not use generator in highly conductive areas. These areas include metal decking and steelwork.***
- ***Only use grounded extension cords.***
- ***Do not use any worn or damaged electric cords. Electric shock or damage to generator may result.***
- ***On construction sites, you must use a Ground Fault Circuit Interrupter (GFCI). This helps guard against electric shock. OSHA and the National Electrical Code requires this.***
- ***Do not wear damp clothing or wet shoes when using generator.***

Dayton® Professional-Duty Electric Generators

General Safety Information (Continued)

⚠WARNING ***Engine exhaust from this product contains chemicals known, in certain quantities, to cause cancer, birth defects, or other reproductive harm.***

⚠WARNING ***Guard against burns. Hot engine parts can cause severe injury. Use caution and remain alert when using generator.***

- ***Keep children and animals away from generator while it is running or hot.***
- ***Keep all covers and shields in place. Keep them tightly secured.***
- ***The muffler becomes very hot during operation. The muffler remains hot for a while after shutdown. Do not touch muffler while it is hot. Do not let muffler touch anything flammable. Let engine cool before transporting or storing.***

⚠WARNING ***Have standby installation to home or building performed by a licensed electrician. Do not let anyone else wire into a utility circuit. Personal injury, equipment damage, or damage to home could occur.***

⚠WARNING ***Never connect generator to any existing electrical circuits. The generator output will back-feed into the utility power line. This may electrocute a power company line repair person. Also, if generator is powering electrical circuits, the chance of an electrical fire exists.***

⚠WARNING ***Battery gives off explosive gases. Keep sparks, flames, and cigarettes away. Do not remove or install battery cables when engine is cranking or running. Only service or use battery in a well-vented area.***

⚠WARNING ***Battery contains sulfuric acid. Battery acid is poisonous if swallowed. Contact with skin or eyes may cause severe burns. Do not tilt generator with battery installed. Tilting could cause battery acid to spill. Wear protective clothing and face shield when servicing. Keep out of children's reach.***

⚠WARNING ***Only a qualified electrical service person should service and repair generator.***

- ***Generator produces high voltage. Use extreme caution when working on electrical parts.***
- ***Always remove spark plug wire from spark plug before servicing. This will prevent accidental starting.***
- ***When working on generator, avoid hot muffler, exhaust manifold, and engine parts. Severe burns may occur.***
- ***Do not work on generator when tired.***
- ***Use only factory approved replacement parts.***

⚠WARNING ***Store generator in a well-vented area. Make sure fuel tank is empty. Never store with fuel in tank. Vapors may reach an open flame or spark. Fire or explosion may result.***

⚠ CAUTION ***Never operate generator***

- ***if engine speed changes greatly***
- ***if engine misfires often***
- ***if powered items overheat***
- ***if electrical output drops***
- ***if it is sparking***
- ***if it produces smoke or flames***
- ***if it vibrates at high levels***
- ***if it has a damaged receptacle***

⚠ CAUTION ***Keep generator and nearby areas clean.***

- ***Keep generator free of oil, mud, and other foreign matter.***
- ***Remove anything that creates slippery areas around generator.***
- ***Remove oily rags and other items that create fire hazards.***
- ***Keep a fire extinguisher nearby. Make sure it is rated ABC by the NFPA. They are good for all uses. Consult your local fire department.***
- ***Keep fire extinguisher well maintained. Be familiar with its use.***

⚠ CAUTION ***Know how to stop engine quickly. Know how to use all controls.***

⚠ CAUTION ***Prolonged exposure to loud noise can cause hearing loss.***

- ***When working around generator, wear approved hearing protection.***
- ***Remember neighbors when using generator.***

GENERATOR FEATURES

OIL ALERT SYSTEM

The oil alert system protects the engine from low oil damage. This system automatically shuts down the engine and prevents engine restarting if the oil level falls too low.

NOTE: When this happens, the engine switch remains in the ON position and the ON/OFF switch flashes. The oil alert system is wired into the ON/OFF switch.

If this system shuts down the engine, the engine will not start until you add oil. Add oil to engine (See *Engine Oil,* page 9).

NOTE: Operate generator on a level surface. If not level, the oil may flow away

Models 5U933A, 5U934A, and 5U935A

General Safety Information (Continued)

from the oil level sensing device. This will cause the oil alert system to shut down engine.

See engine owner's manual for more information.

FULL POWER SELECTOR SWITCH

All models except 5U935A have a full power selector switch on the control panel. The switch has two positions: 120 VOLT ONLY, and 120/240 VOLT.

120 VOLT ONLY: This position sends full power to the 120V receptacles only. 240V power is not available. Use this position when powering 120V items only.

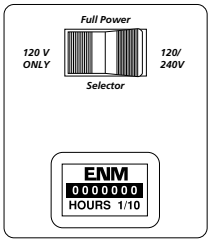

Figure 5 – Full Power Selector Switch in 120 Volt Only Position (Models 5U933A and 5U934A)

120/240 VOLT: This position sends full power to the 120/240V receptacle. It also powers the 120V receptacles at reduced wattage capacity.

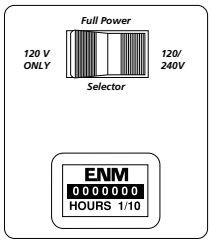

Figure 6 – Full Power Selector Switch in 120/240 Volt Position (Models 5U933A and 5U934A)

IMPORTANT: Do not move the full power selector switch while powering electrical items. Unplug all items before moving switch. Failure to do so can damage switch.

Model 5U935A does not have this switch. This model provides full power to all receptacles.

HOUR METER

The hour meter is on the control panel. The hour meter shows the total amount of time the generator has run (See Figure 7). Use the time on the hour meter as a guide for servicing the generator.

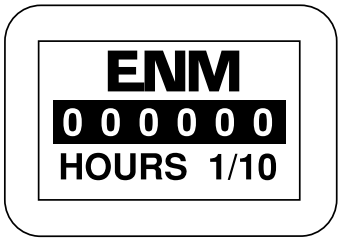

Figure 7 – Hour Meter

ELECTRIC START (MODEL 5U935A ONLY)

Model 5U935A has an electric starter. A battery is not supplied with generator. You must provide a 12-volt, 32-amp battery. For more battery information, see *Battery* (next column).

RECEPTACLE CIRCUIT BREAKER

All models have four circuit breakers. The circuit breakers protect the receptacles and alternator. Overloading generator will trip circuit breaker. A short circuit in item being powered will also trip breaker. If this occurs, unplug electrical load from receptacle. Let circuit breaker cool down. Push circuit breaker button to reset.

Figure 8 – Receptacle Circuit Breaker Button

Electric motors need higher starting current. They require up to 3-times their rated wattage to start. The starting current needed may be too high. This can cause nuisance circuit breaker tripping. To help prevent this, start electric motors first. Connect additional items to generator after starting motors. If this continues to happen, reduce the total generator load.

Assembly

BATTERY (MODEL 5U935A ONLY)

⚠WARNING ***Battery gives off explosive gases. Keep sparks, flames, and cigarettes away. Do not remove or install battery cables when engine is cranking or running. Only service or use battery in a well-vented area.***

⚠WARNING ***Battery contains sulfuric acid. Contact with skin or eyes may cause severe burns. Do not tilt generator with battery installed. Tilting could cause battery acid to spill. Wear protective clothing and face shield when servicing. Keep out of children's reach.***

- ***If battery acid gets on your skin, wash with water.***
- ***If battery acid gets in your eyes, flush with water at least 15 minutes. Call a doctor at once.***

Battery acid is poisonous.

- ***If swallowed, drink large amounts of water or milk. Follow with milk of magnesia or vegetable oil. Call a doctor at once.***

Dayton® Professional-Duty Electric Generators

Assembly (Continued)

⚠ CAUTION ***If you remove battery, insulate the red, positive (+) battery cable terminal. Insulate with electrical tape. Exposed terminal may spark when generator runs.***

IMPORTANT: Make sure battery connections are the correct polarity. Electric start generators use negative ground, 12-volt DC starting system.

Model 5U935A has an electric starter. A battery is not supplied with generator. You must provide a 12-volt, 32-amp battery. The positive and negative battery cables are supplied with generator. You must install these cables before mounting battery.

Always wear safety glasses when working with battery. Make sure battery terminals are clean. Make sure cable connections are tight.

Always shut down engine before removing or attaching battery cables. Always remove the negative (–) cable first. Always attach negative (–) cable last.

INSTALLING BATTERY CABLES TO ENGINE

1. Attach the red, positive (+) battery cable to the starter solenoid on engine (See Figure 9).
2. Attach the black, negative (–) battery cable to the engine block. Use the bolt, nut, and two washers provided with the battery cables. Use long mounting hole on opposite side of engine from starter solenoid. Attach cable as shown in Figure 9.

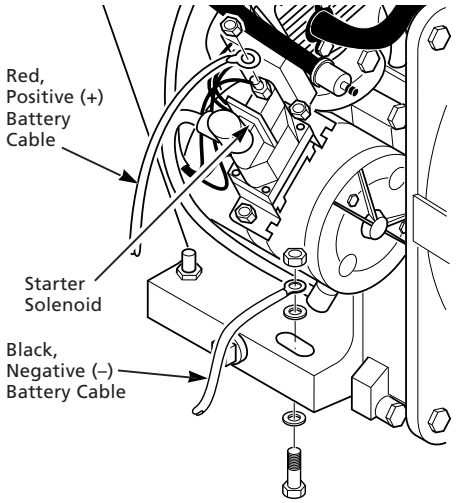

Figure 9 – Connecting Red, Positive (+) Battery Cable to Starter Solenoid on Engine and Connecting Black, Negative (–) Battery Cable to Engine Block

MOUNTING BATTERY TO GENERATOR

1. Secure battery to generator by battery hold-down system. This system consists of the battery mounting bracket, hook bolt, and nut (See Figure 10).

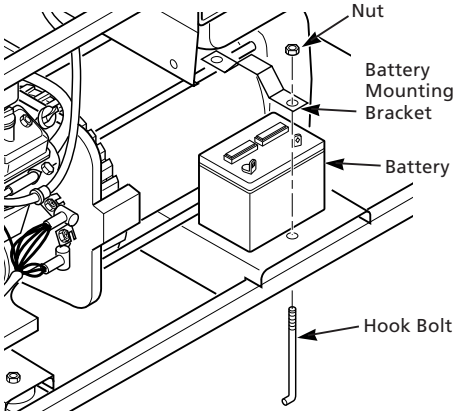

Figure 10 – Battery Hold-Down System

2. Locate the red, positive (+) battery cable from starter solenoid. Connect it to the positive (+) battery terminal (See Figure 11).

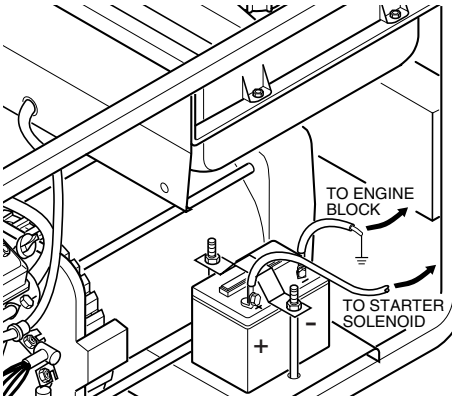

Figure 11 – Connecting Positive and Negative Cables to Battery

3. Locate the black, negative (–) battery cable attached to engine block. Connect it to the negative (–) battery terminal (See Figure 11).
4. Check battery before starting engine. Make sure fluid levels are full. Make sure battery is charged.

See engine owner's manual for more information.

Installation

FUEL

⚠ WARNING ***Gasoline presents a hazard of fire or explosion. Gasoline is flammable. Its vapor is explosive.***

- ***Keep fuel out of children's reach.***
- ***Refuel generator in a well-vented area. Do not fill fuel tank in the dark. Do not refuel while engine is running. Unhook all electrical loads and shut off engine before refueling.***
- ***Do not overfill fuel tank. Always allow room for fuel to expand. If you overfill tank, fuel can overflow onto hot engine. This can cause fire or explosion. After refueling, tightly close fuel tank cap.***

Models 5U933A, 5U934A, and 5U935A

Installation (Continued)

- ***Do not spill fuel. Fuel or fuel vapor may ignite. If fuel spills, make sure area is dry before starting engine.***
- ***Never smoke in refueling area. Never allow open flames or sparks in area.***
- ***Store fuel in approved container. Store fuel in a well-vented area free of open flames or sparks.***

Use clean, fresh, unleaded gasoline. Use gasoline with octane rating of 86 or higher. Service station gasoline pumps should display the octane rating. Using gasoline with lower octane level could damage engine. Avoid getting dirt, dust, or water in fuel tank. Do not mix oil with gasoline. See engine owner's manual for more information.

ENGINE OIL

We ship the generator without oil in the engine crankcase. You must add oil before starting engine. See engine owner's manual for specific oil type.

CHECKING OIL LEVEL AND ADDING OIL

Follow steps below to check oil level. Make sure engine is level and stopped.

1. Remove dipstick (See Figures 12 and 13). Wipe dipstick clean.
2. Place dipstick all the way back into tube. Models 5U933A and 5U934A: Screw dipstick all the way in. Model 5U935A: Push dipstick all the way in.
3. Remove dipstick and check oil level.
4. If oil level is low, fill to full indicator mark on dipstick (See Figures 12 and 13). Do not overfill. Only use oil recommended in engine owner's manual.

NOTE: If oil level is too low, oil alert system will shutdown engine and prevent engine from restarting.

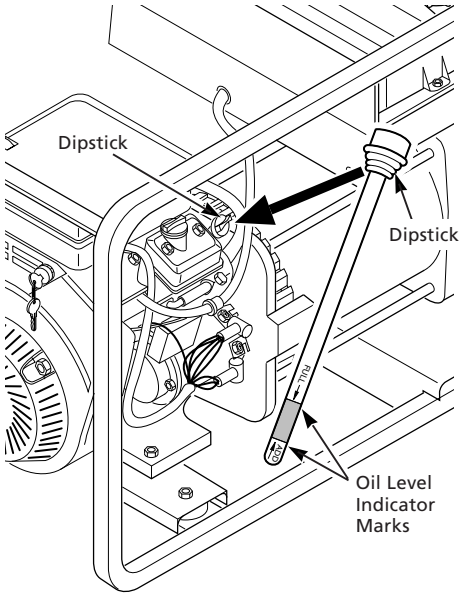

Figure 12 – Checking Oil Level (Model 5U935A)

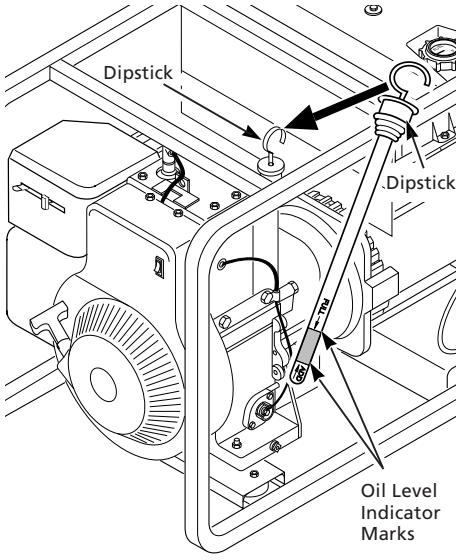

Figure 13 – Checking Oil Level (Models 5U933A and 5U934A)

VENTILATION

⚠ DANGER ***Use only in well-vented areas. Make sure area has plenty of free-moving, fresh, outside air. Never run generator in an enclosed or confined area. Never run generator inside occupied building. Engine exhaust contains poisonous carbon monoxide gas. Overexposure will cause loss of consciousness and will lead to death.***

This generator needs cooling air to run properly. Never block free-flowing, cooling air to generator. Overheating will occur without cooling air. This will damage the generator. Keep generator at least three feet away from any object.

GENERATOR GROUNDING

⚠WARNING ***You must properly earth-ground generator before starting. This will help guard against deadly electric shock. Only use grounded plugs with generator. Only use grounded extension cords. Only use three-wire or double-insulated power tools.***

Grounding generator helps prevent electric shock from a ground fault condition.

Locate ground lug on end of generator housing (See Figure 14, page 10). Attach a #10 stranded-copper ground wire to ground lug. Drive grounding point into ground. Grounding point can be a stake, grounding rod, or pipe. Grounding point should be copper or brass. Attach ground wire to grounding point. You must supply the ground wire and grounding point. They do not come with generator. Follow the National Electrical Code and all state and local codes. Consult your power company or a licensed electrician.

Dayton® Professional-Duty Electric Generators

Installation (Continued)

⚠WARNING ***For a grounding point, do not use metal pipe being used to carry combustible materials or gases.***

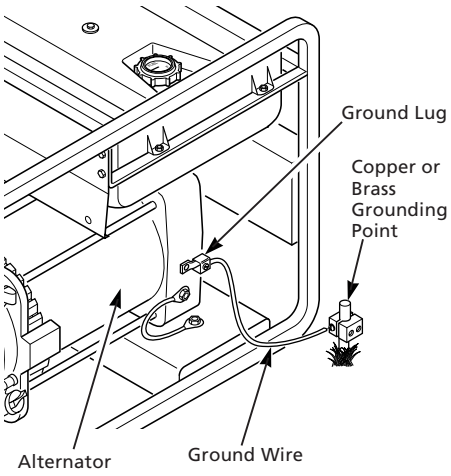

Figure 14 – Grounding Generator

DUST, DIRT, RAIN, AND SNOW

⚠WARNING ***Do not use generator outdoors in rain or snow. Do not use generator near standing water or snow. Do not use if generator is wet or damp. Operating generator in these conditions increases the risk of electrocution. Severe injury or death can occur.***

Do not use generator in extremely dusty or dirty conditions. This will severely affect its life. Keep generator clean. Do not allow dust, dirt, rain, or snow to collect on it. Protect generator from outdoor elements.

EXTENSION CORDS

Only use grounded extension cords. Be sure to use extension cord with proper wire gauge size. See chart in next column.

RECOMMENDED MINIMUM WIRE GAUGES (AWG) FOR EXTENSION CORDS

Ampere Load	AWG for 50' Cord	AWG for 100' Cord	AWG for 150' Cord
2	18	18	18
3	18	18	18
4	16	16	16
5	16	16	16
6	16	16	14
8	16	14	12
10	16	14	12
12	14	14	12
14	14	12	10
16	12	12	10
20	10	10	8

GROUND FAULT PROTECTION

Ground Fault Circuit Interrupter (GFCI) helps guard against electric shock. On construction sites, you must use a GFCI. OSHA and the National Electric Code requires this.

You must provide the GFCI device. Purchase GFCI at any electrical supply house. Check the Yellow Pages for the nearest supply house.

STANDBY INSTALLATION TO HOME OR BUILDING

⚠WARNING ***Have standby installation performed by a skilled, licensed electrician. Do not let anyone else wire into a utility circuit. Personal injury, equipment damage, or damage to home could occur.***

IMPORTANT: This generator will not power your entire home. Most home utility electric service is more than 60 amps. This will exceed generator output. Only power needed items during a power outage. Make sure total wattage of electrical load does not exceed rated wattage of generator.

You can use this generator as a standby power source. During a power outage, the generator will power selected items in a building. Have generator and additional wiring installed by a skilled, licensed electrician. This is not a do-it-yourself job. Follow all local codes.

⚠WARNING ***The electrician must install a double-throw transfer switch. This isolates existing electrical circuits from the utility power line. If not isolated, generator output will back-feed into utility power line. This may electrocute a power company line repair person.***

DETERMINING ELECTRICAL LOAD FOR GENERATOR

You must decide what electrical load your generator can power. Do this before using generator. Use the following four-step method. It will help you select a load that is not too large. Make sure total wattage of all electrical loads does not exceed rated wattage of generator. For rated wattage of your generator, see *Electrical Specifications,* page 2. Electric motors present a special problem when figuring load. Read Step 3 carefully.

1. Make two lists of items you want powered by generator. List all motors and motor powered appliances in one. List all lights, small appliances, etc. in the other. For standby service to home or building, only include items you must power.
2. Enter running watts of each item except motors. The light bulb or appliance nameplate lists its wattage. Remember, 1KW = 1000 watts.

Models 5U933A, 5U934A, and 5U935A

Installation (Continued)

NOTE: The nameplate may not list wattage. It may only list volts and amps. The formula for finding wattage is: Volts x Amps = Watts. For example: An appliance nameplate states 3 amps at 120 volts. 3 amps x 120 volts = 360 watts.

3. Electric motors present a special problem. They require up to 3-times their rated wattage to start. Chart 1 below, shows starting watts (maximum volt-amperes [VA]) for different size motors. For example: an electric motor nameplate states 5 amps at 120 volts. 5 amps x 120 volts = 600 watts running. Multiply this figure by 3. This will show the starting watts (maximum VA) needed. 600 watts x 3 = 1800 watts (VA) to start. When figuring the generator load for motors, you must use the starting watts (maximum VA) figure. Do not use the running watts figure.

NOTE: Some motors require nearly the same wattage to run as to start. These items include saws, drills, hair dryers, and food mixers. See Chart 2 for typical appliance wattage examples.

4. Add watts and starting watts (maximum VA) of all items. This total must not be larger than the rated wattage of your

TYPICAL ELECTRIC APPLIANCE WATTAGES

CHART 2

Equipment	Running Watts	Starting Watts (Max.VA)
Light bulb (100W)	100	100
Radio	150	150
Fan	200	600
Television	400	400
1/3 HP Furnace fan with blower	600	1800
Vacuum cleaner	600	750
1/3 HP Sump pump	700	2100
Refrigerator/freezer	800	2400
6" Circular saw	800	1000
Floodlight	1000	1000
1/2" Drill	1000	1250
Toaster/coffeemaker	1200	1200
Skillet	1200	1200
14" Chain saw	1200	1500
1/2 HP Water well pump	1000	3000
Hot plate/range (per burner)	1500	1500
10" Table saw	2000	6000
Water heater (storage-type)	5000	5000

CHART 1

Motor HP Rating	Approximate Running Watts	Approximate Starting Watts* (Max. VA) Universal Motors (small appliance)	Approximate Starting Watts* (Max. VA) Repulsion Induction Motors	Approximate Starting Watts* (Max. VA) Capacitor Motors	Approximate Starting Watts* (Max. VA) Split Phase Motors
1/8	275	400	600	850	1200
1/4	400	500	850	1050	1700
1/3	450	600	975	1350	1950
1/2	600	750	1300	1800	2600
3/4	850	1000	1900	2600	†
1	1000	1250	2300	3000	†
1 1/2	1600	1750	3200	4200	†
2	2000	2350	3900	5100	†
3	3000	†	5200	6800	†

(*) Always use starting watts (maximum VA), not running watts, when figuring correct electrical load.

(†) Motors of higher horsepower are not generally used.

Please check with appliance manufacturer for maximum wattage required.

Dayton® Professional-Duty Electric Generators

Installation (Continued)

generator. It is a good idea to have up to 25% extra capacity for future needs or extra equipment.

Operation

HIGH AND LOW TEMPERATURE OPERATION

Air temperature affects generator output. Output drops 1% for each 10° temperature rise above 60° F. Very low temperatures may make the engine hard to start. See engine owner's manual for more information.

GENERAL INFORMATION

This generator is not large enough to power your entire home. Do not connect generator to any existing electrical circuits. Plug items directly into generator receptacles. Do not exceed amperage rating of receptacles. Only use grounded cords.

⚠ DANGER ***Use only in well-vented areas. Make sure area has plenty of free-moving, fresh, outside air. Never run generator in an enclosed or confined area. Never run generator inside occupied building. Engine exhaust contains poisonous carbon monoxide gas. Overexposure will cause loss of consciousness and will lead to death.***

⚠WARNING ***Never connect generator to any existing electrical circuits. The generator output will back-feed into the utility power line. This may electrocute a power company line repair person. Also, if generator is powering electrical circuits, the chance of an electrical fire exists.***

NOTE: We supply the engine owner's manual with generator. Refer to that manual for questions concerning engine operation.

USING RECEPTACLE

NOTE: Do not exceed amperage rating of receptacles. Exceeding rating will trip receptacle circuit breaker.

Use receptacles properly. Improper use could damage generator. Use only grounded extension cords. Power only grounded or double-insulated items. Do not overload receptacles. All generators have the following receptacles (See Figure 15):

- 120V, 15-amp GFCI duplex receptacle
- 120V, 15-amp duplex receptacle
- 120V, 30-amp twist-lock receptacle
- 120/240V, 20 or 30-amp twist-lock receptacle

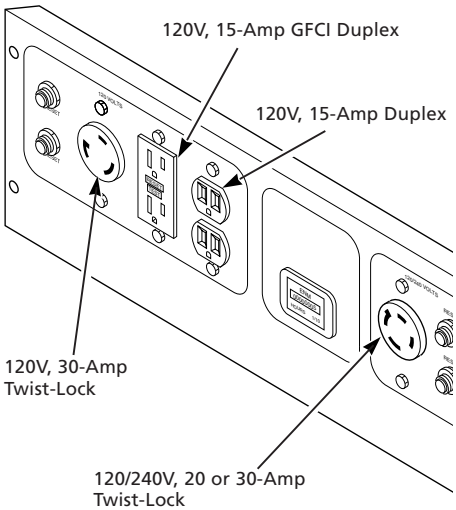

Figure 15 – Receptacle Location (Model 5U935A shown)

POWER CORD AND PLUG REQUIREMENTS

120V, 30-amp twist-lock receptacle

- NEMA L5-30P plug
- Three-wire, 30-amp cord

120/240V, 20 or 30-amp twist-lock receptacle

- NEMA L14-20P (20-amp) or L14-30P (30-amp) plug
- Four-wire, 20-amp or 30-amp cord

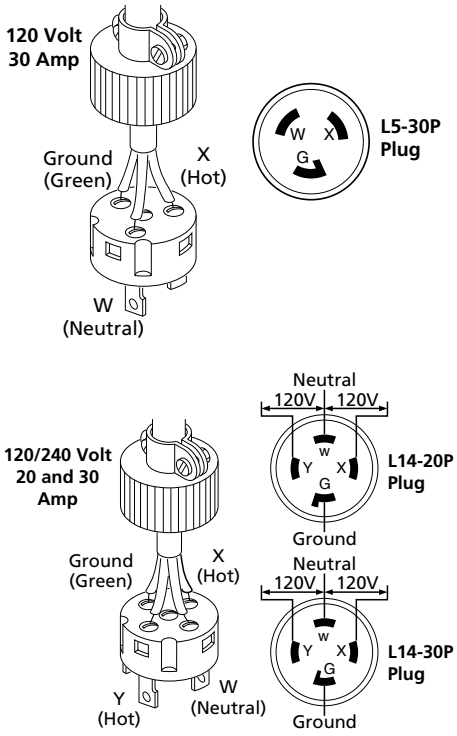

Figure 16 – Cord and Plug Configurations

PRESTART

Operate generator on a firm, dry, and clean surface. The surface must be level. Protect generator from heavy dust, sand, dirt, rain, or snow. Do not locate generator near standing water and snow. Make sure area is well-vented.

⚠WARNING ***Only responsible adults should use generator. Never let anyone operate generator without proper instructions.***

Models 5U933A, 5U934A, and 5U935A

Operation (Continued)

NOTE: If oil level is too low, oil alert system will keep engine from starting (see *Oil Alert System*, page 6). Make sure oil level is full before starting. See *Engine Oil*, page 9.

Before starting the engine, disconnect all electric loads from generator.

STARTING

IMPORTANT: The engine speed is preset. The throttle is locked in preset position. Do not adjust throttle. Preset position lets engine run at 3600 RPM under load. The engine must maintain 3600 RPM for generator to create correct voltage. Running engine at lower speeds will damage generator and powered items.

IMPORTANT: Never start generator with electrical loads connected. Start engine before adding electrical loads.

1. Make sure gasoline tank is full. See *Fuel*, page 8 for fuel information.
2. Locate fuel valve under the fuel tank. Turn fuel on. Do this by turning fuel valve handle to vertical position (See Figure 17).

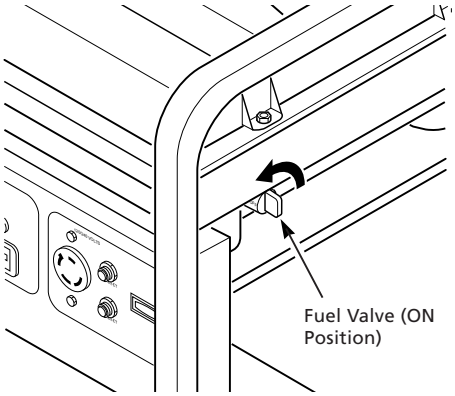

Figure 17 – Fuel Valve On

3. For Model 5U935A, pull choke lever out (See Figure 18). For models 5U933A and 5U934A, slide choke lever to left (See Figure 19). This closes the choke.

NOTE: You may not need to close choke if engine is warm or air temperature is high.

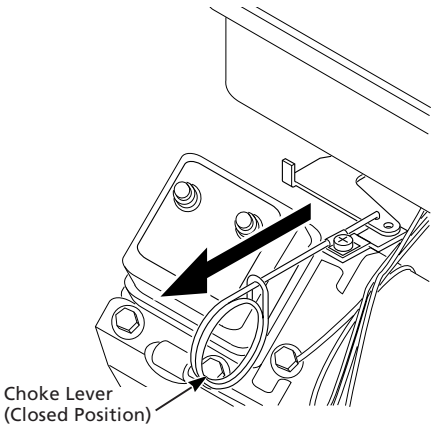

Figure 18 – Choke Lever in Closed Position (Model 5U935A)

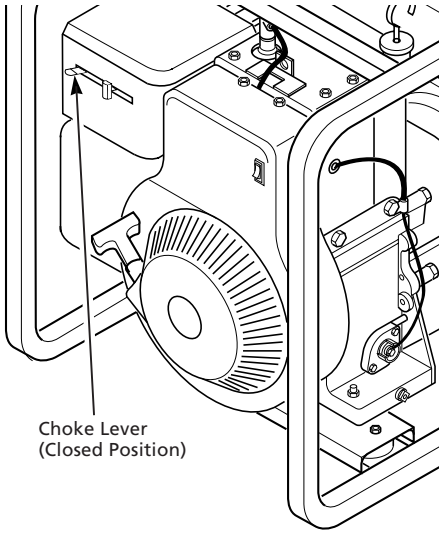

Figure 19 – Choke Lever in Closed Position (Models 5U933A and 5U934A)

4. Start the engine.

RECOIL STARTER (MODELS 5U933A AND 5U934A)

Press engine switch to the ON position (See Figure 20). Remove slack from starter rope by lightly pulling starter grip. Next, pull starter rope briskly.

IMPORTANT: Do not let starter grip snap back against engine. Return it gently. This will prevent damage to starter.

NOTE: If engine does not start, check the oil level in the crankcase. Add oil as needed. Be sure engine is on a level surface. See *Oil Alert System,* page 6.

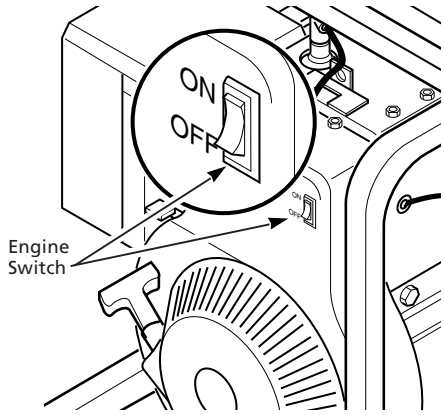

Figure 20 – Engine Switch in ON Position (Models 5U933A and 5U934A)

ELECTRIC STARTER (MODEL 5U935A ONLY)

Turn key to the right to START position (See Figure 21, page 14). Hold it there until engine starts. When engine starts, let key return to the ON position.

Dayton® Professional-Duty Electric Generators

Operation (Continued)

IMPORTANT: Do not use electric starter more than five seconds. Starter motor damage may occur. If engine fails to start, release the key and wait ten seconds. After ten seconds, try starting again.

NOTE: If engine does not start, check the oil level in the cranckcase. Add oil as needed. Be sure engine is on a level surface. See *Oil Alert System,* page 6.

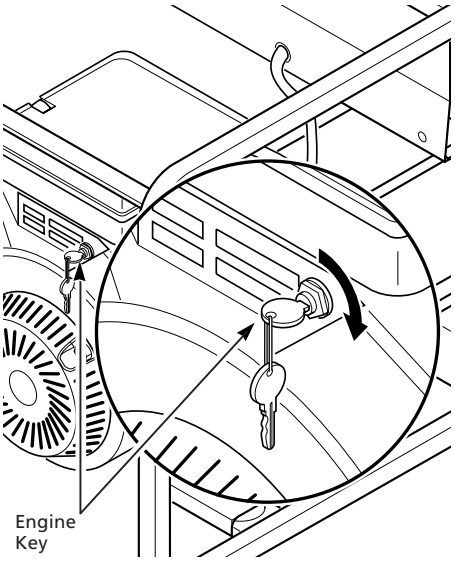

Figure 21 – Engine Key (Model 5U935A Only)

5. As engine warms up, slowly push choke lever in on Model 5U935A (See Figure 22). On Models 5U933A and 5U934A, slowly move choke lever fully to the right (See Figure 23). This opens the choke.

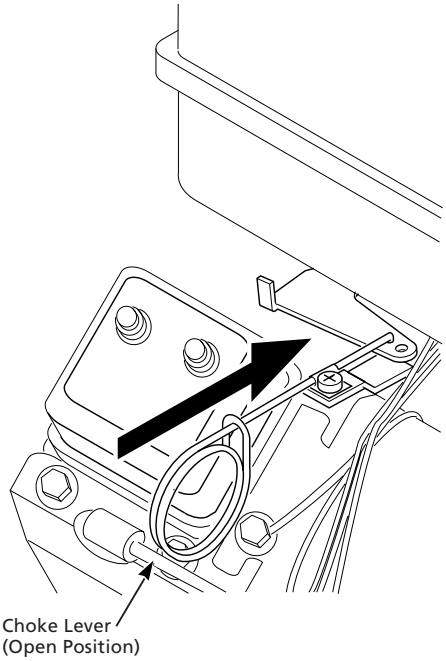

Figure 22 – Choke Lever Opened (Model 5U935A)

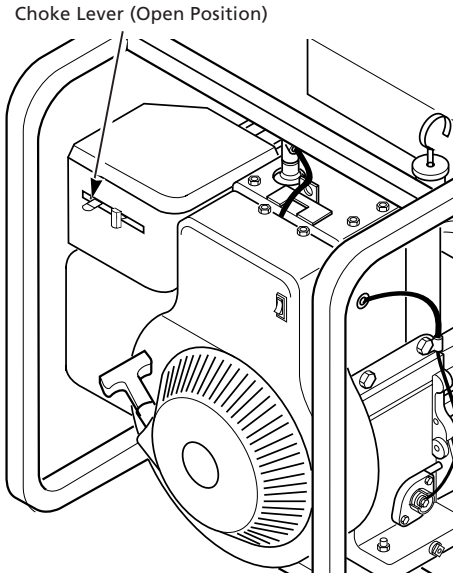

Figure 23 – Choke Lever Opened (Models 5U933A and 5U934A)

HIGH ALTITUDE OPERATION

This generator will not perform well at high altitudes without proper adjustment. See engine owner's manual for details.

ADDING ELECTRICAL LOADS

IMPORTANT: Do not overload generator. Make sure total wattage of all electrical loads does not exceed rated wattage of generator. Overloading may shorten generator life. It could also cause internal damage to generator. Overloading will trip circuit breaker.

IMPORTANT: Keep full power selector switch in the 120 VOLT ONLY position if only powering 120V items. Only move switch to 120/240 VOLT position if powering 240V items.

1. Check items to be powered. Their nameplate lists their wattage ratings.

NOTE: The wattage ratings for some electrical motors are misleading. They may require up to 3-times their rated wattage to start. You must figure total electrical load wattage. Make sure total wattage of all electrical loads does not exceed rated wattage of generator. See *Determining Electrical Load For Generator,* page 10.

2. Start engine. Let engine reach full speed.
3. Connect electrical loads one at a time. If the load consists of electric motors, start them first. Always start the largest first. Start each motor individually.

DISCONNECTING ELECTRIC LOADS

Remove electrical loads one at a time. Remove voltage sensitive items first. Voltage sensitive items include TVs, VCRs, and other home electronic items.

STOPPING ENGINE

Models 5U933A, 5U934A, and 5U935A

Operation (Continued)

IMPORTANT: The engine speed is preset. The throttle is locked in preset position. Do not adjust throttle.

Follow the steps below to stop engine.

1. Remove all electrical loads from generator (See *Disconnecting Electrical Loads,* page 14). Remove electrical loads one at a time.
2. Let engine run for two or three minutes after removing electrical loads. This lets engine and generator cool slightly.
3. Turn engine switch or key to the OFF position (See Figures 24 and 25).
4. Turn fuel off. Do this by turning fuel valve handle to horizontal position (see Figure 26).

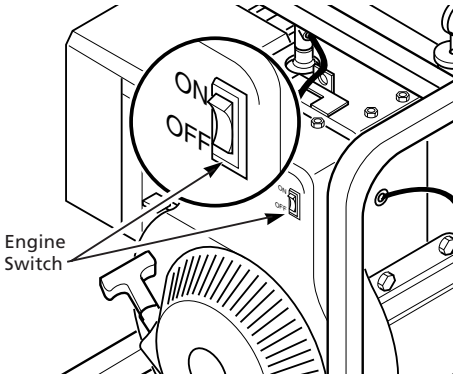

Figure 24 – Engine Switch In OFF Position (Models 5U933A and 5U934A)

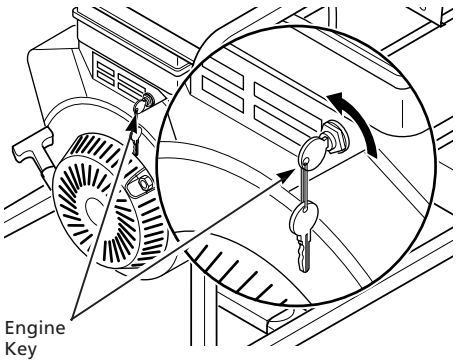

Figure 25 – Engine Key In OFF Position (Model 5U935A)

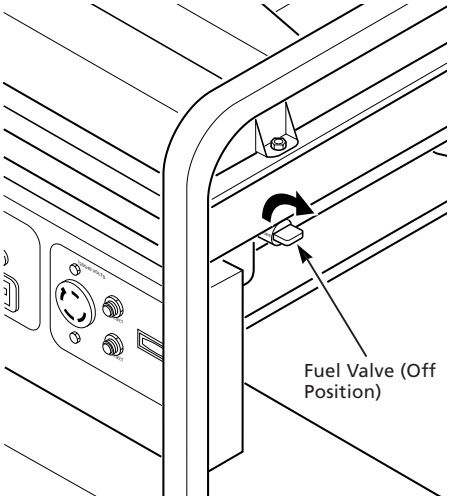

Figure 26 – Fuel Valve Off

Maintenance and Repairs

⚠WARNING Only a qualified electrical service person should service and repair the alternator on this generator. Use only factory approved replacement parts.

⚠ CAUTION The engine speed is preset. The throttle is locked in preset position. Do not adjust throttle. Preset position lets engine run at 3600 RPM under load. The engine must maintain 3600 RPM for generator to create correct voltage. Running engine at lower speeds will damage generator and powered items.

⚠ CAUTION Shut off generator before performing maintenance.

IMPORTANT: Keep generator level when servicing. Never turn generator upside down or stand it on end to service.

NOTE: We supply the engine owner's manual with generator. Refer to that manual for questions concerning engine maintenance and repairs.

Non-engine parts require little maintenance. Keep generator clean. Use a damp cloth to clean outside surfaces. Never use water to clean generator. Water can cause damage to internal parts. Use vacuum to clean air inlet and outlet louvers of alternator.

SERVICING THE ENGINE

Briggs and Stratton parts and services should be handled by your nearest authorized engine service firm. Check the yellow pages of your telephone directory under the listing:

Engines Gasoline, Briggs and Stratton

Storage

⚠WARNING Remove all fuel from fuel tank before storing generator. Store fuel in approved container. Store fuel in a well-vented area free of open flames or sparks.

⚠WARNING The muffler becomes very hot during operation. The muffler remains hot for a while after shutdown. Let engine cool before storing.

IMPORTANT: Keep generator level while in storage. Never store generator upside down or standing on end.

NOTE: We supply the engine owner's manual with generator. Refer to that manual for questions concerning engine storage.

Cover and store generator in a clean, dry place. Do not expose generator to extreme high or low temperatures during storage.

Dayton® Professional-Duty Electric Generators

Wiring Diagram

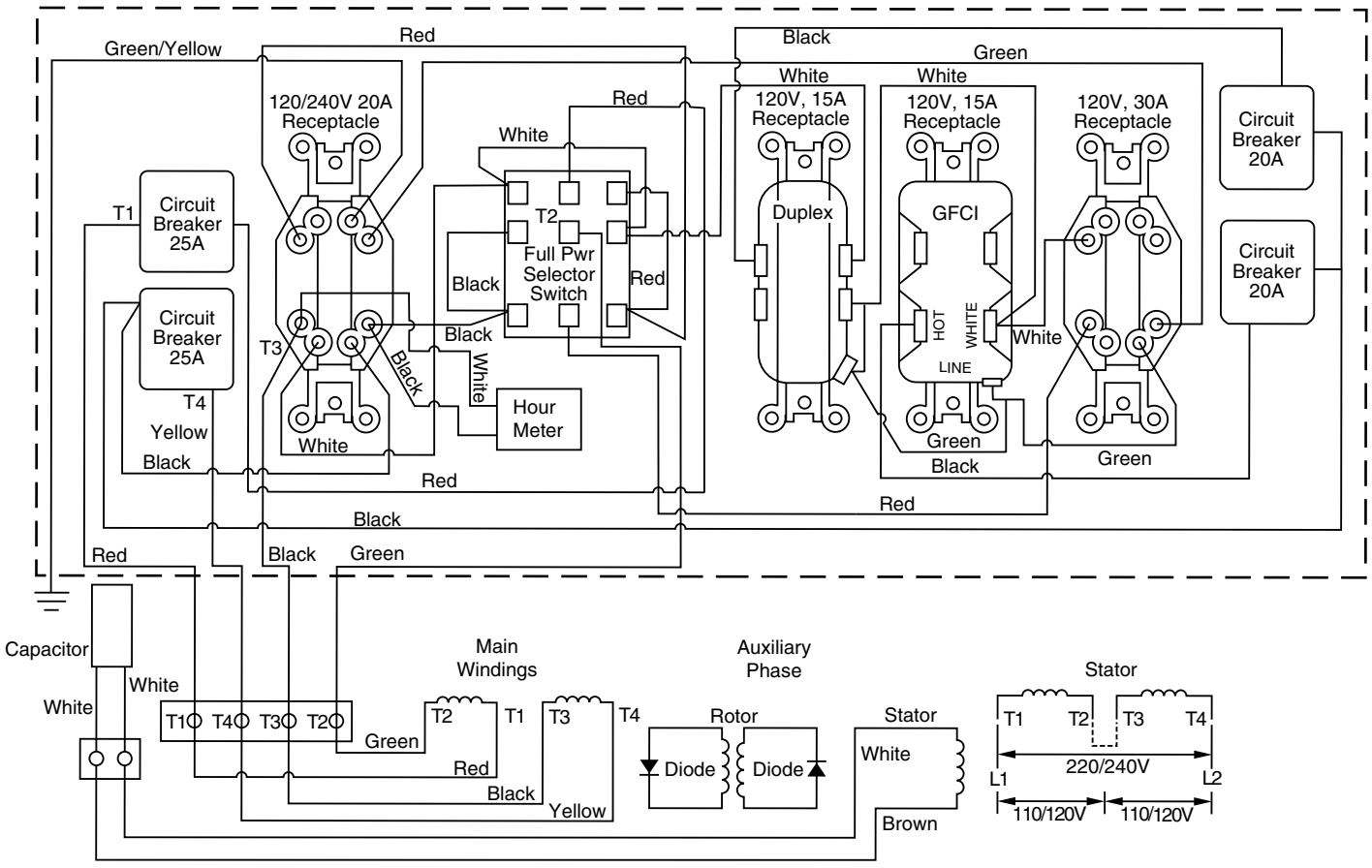

Figure 27 – Wiring Diagram for, Models 5U933A and 5U934A

Models 5U933A, 5U934A, and 5U935A

Wiring Diagram

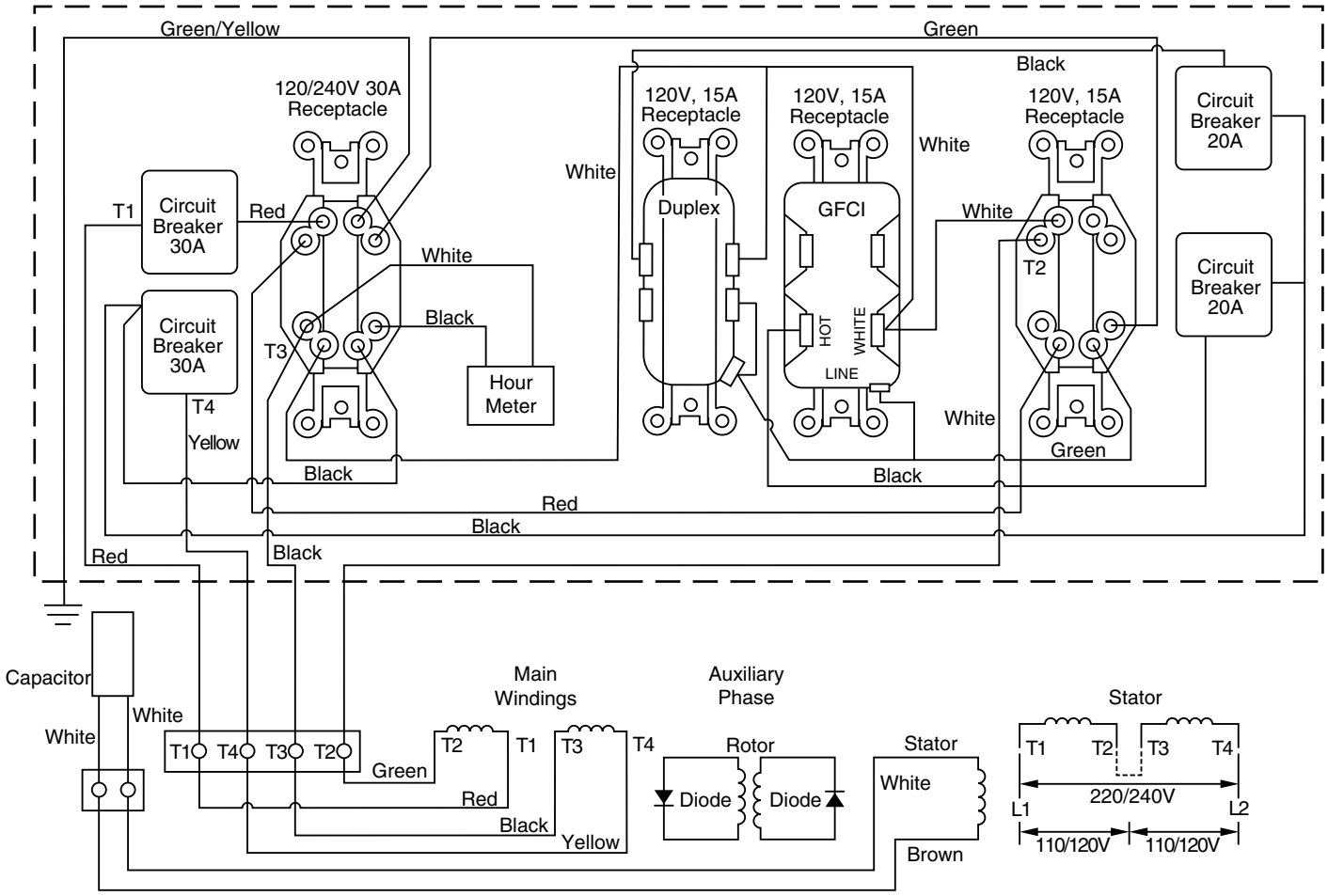

Figure 28 – Wiring Diagram for, Model 5U935A

For Replacement Parts, call 1-800-323-0620

24 hours a day - 365 days a year

Please provide following information:
-Model number
-Serial number (if any)
-Part description and number as shown in parts list

Address parts correspondence to:
Grainger Parts
P.O. Box 3074
1657 Shermer Road
Northbrook, IL 60062-3074 U.S.A.

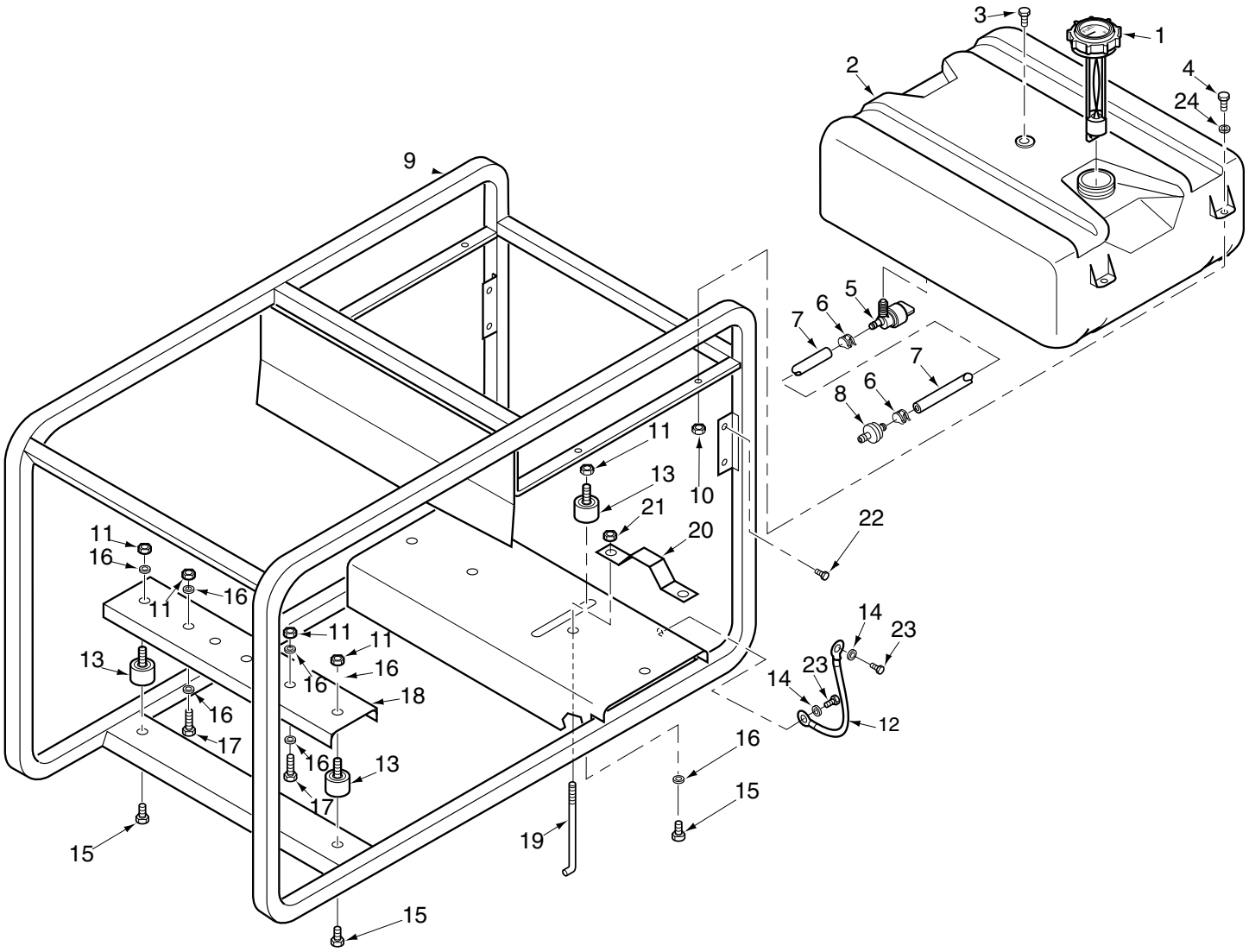

Figure 29 – Replacement Parts Illustration for Fuel Tank and Roll Cage

Replacement Parts List for Fuel Tank and Roll Cage

Reference Number	Description	Part No. for Models: 5U933A	5U934A	5U935A	Quantity
1	Gas Cap/Fuel Gage	25954000	25954000	25954000	1
2	Gas Tank	099741-01	099741-01	099741-01	1
3	Breather Assembly	25978000	25978000	25978000	1
4	1/4-20 x 1" Screw	HC4-8C	HC4-8C	HC4-8C	4
5	Fuel Valve	25946000	25946000	25946000	1
6	Gas Line Clamp	19508001	19508001	19508001	2
7	Fuel Line	25985000	25985000	25985005	1
8	Fuel Filter	099743-01	099743-01	099743-01	1
9	Roll Cage	099752-02	099752-02	099752-01	1
10	1/4-20 Lock Nut	NTC-4C	NTC-4C	NTC-4C	4
11	5/16-18 Lock Nut	NEC-5C	NEC-5C	NEC-5C	5
12	Ground Strap	14138000	14138000	14138000	1
13	Shock Mounts	099853-02	099853-02	099853-02	3
14	5/16" Lock Washer	WLE-5	WLE-5	WLE-5	2
15	5/16-18 x 3/4" Bolt	100406-01	100406-01	100406-01	2
16	5/16" Flat Washer	WP-5C	WP-5C	WP-5C	7
17	5/16-18 x 1 3/4" Bolt	HC5-11C	HC5-11C	HC5-11C	2
18	Engine Spreader	099756-01	099756-01	099756-01	1
19	5/16-18 Hook Bolt	—	—	099750-01	2
20	Battery Mounting Bracket	—	—	099749-01	1
21	5/16-18 Lock Nut	—	—	NEC-5C	2
22	#8-18 x 1/2" Sems Screw	100410-01	100410-01	100410-01	4
23	1/4-20 x 1/2" Screw	M10908-74	M10908-74	M10908-74	2
24	1/4" Washer	WP-4C	WP-4C	WP-4C	4
Δ	Safety Information Decal	099866-01	099866-01	099866-02	1
Δ	Operation Decal	100003-01	100003-01	100003-02	1
Δ	Battery Cable (Positive)	—	—	099873-01	1
Δ	Battery Cable (Negative)	—	—	099873-02	1
Δ	Fuel Line Grommet	03157000	03157000	03157000	3

(Δ) Not shown.

For Replacement Parts, call 1-800-323-0620

24 hours a day - 365 days a year

Please provide following information:
-Model number
-Serial number (if any)
-Part description and number as shown in parts list

Address parts correspondence to:
Grainger Parts
P.O. Box 3074
1657 Shermer Road
Northbrook, IL 60062-3074 U.S.A.

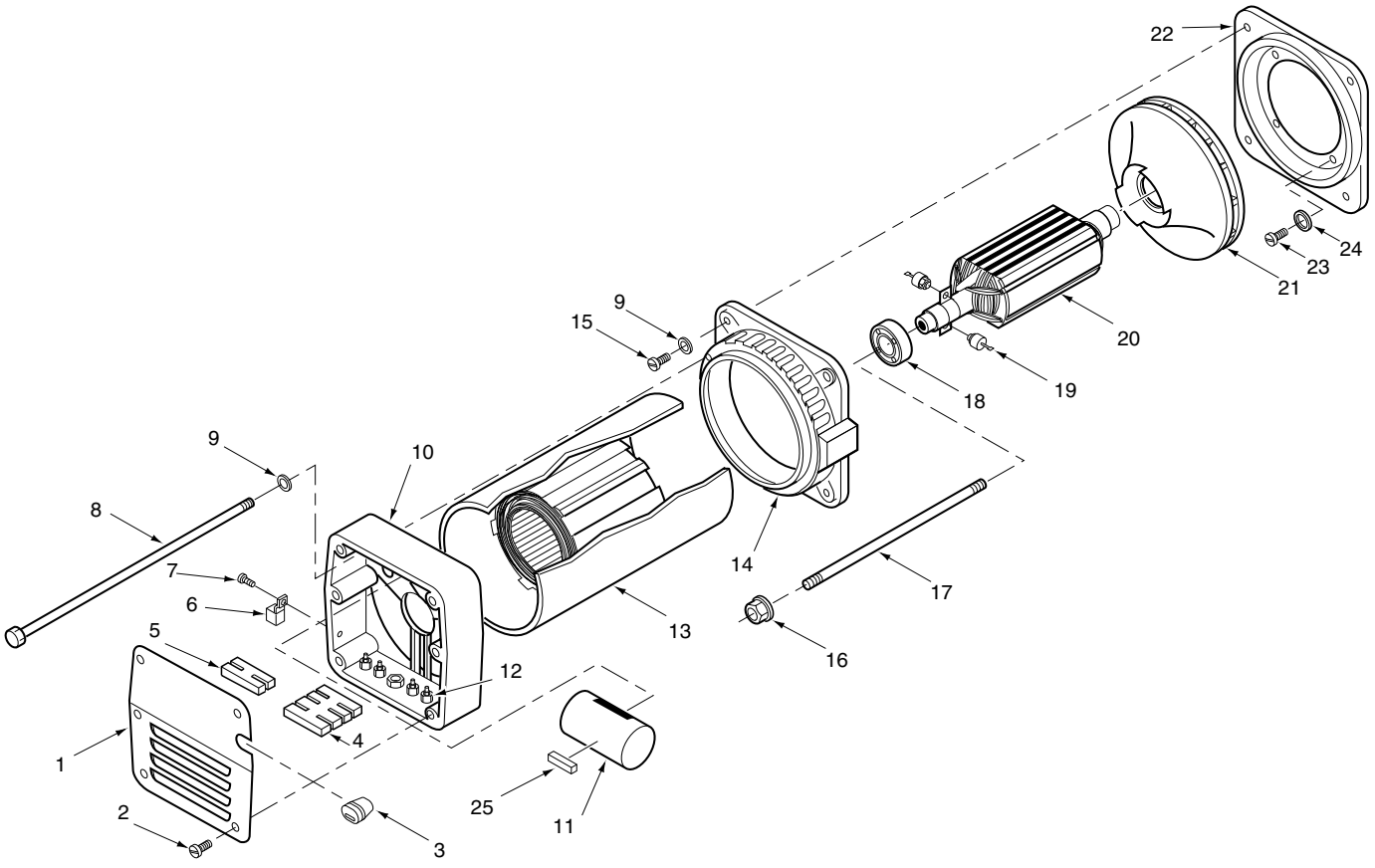

Figure 30 – Replacement Parts Illustration for Alternator Assembly

Replacement Parts List for Alternator Assembly

Reference Number	Description	Part No. for Models: 5U933A	5U934A	5U935A	Quantity
1	End Cover	099844-01	099844-01	099844-01	1
2	M5 x 13 Screw	099701-01	099701-01	099701-01	6
3	Bushing	099760-01	099760-01	099760-01	1
4	Terminal Block (4-block)	099863-01	099863-01	—	1
5	Terminal Block (2-block)	099863-02	099863-02	099863-02	1
6	Ground Lug	†	†	†	1
7	#10-16 x 3/8" Screw	M11084-26	M11084-26	M11084-26	1
8	Stator Bolt	099847-01	099847-02	099847-04	4
9	5/16" Lock Washer	WLE-5	WLE-5	WLE-5	4
10	Bearing Housing	099843-01	099843-01	099843-01	1
11	Capacitor	27004002S	27005003S	27007004S	1
12	Terminal Post	—	—	100054-01	4
13	Stator	†	†	†	1
14	Fan Bracket	27003002	27003002	27003002	1
15	M8 x 20 Screw	27003015S	27003015S	27003015S	4
16	Flange Nut 8 mm	099891-01	099891-01	099891-01	1
17	Draw Bolt	099842-01	099842-02	099842-04	1
18	Bearing	27003003	27003003	27003003	1
19	Diode	27003012S	27003012S	27003012S	2
20	Rotor	†	†	†	1
21	Fan	27003008	27003008	27003008	1
22	Engine Flange	27003007S	27003007S	27003007S	1
23	3/8-16 x 5/8" Bolt	26322004	26322004	26322004	4
24	3/8" Lock Washer	WLE-6	WLE-6	WLE-6	4
25	Foam Pad	099892-01	099892-01	099892-01	1
†	Alternator Assembly	099723-01	099723-02	099723-04	1

(†) Includes reference numbers 1 through 26.

For Replacement Parts, call 1-800-323-0620

24 hours a day - 365 days a year

Please provide following information:
-Model number
-Serial number (if any)
-Part description and number as shown in parts list

Address parts correspondence to:
Grainger Parts
P.O. Box 3074
1657 Shermer Road
Northbrook, IL 60062-3074 U.S.A.

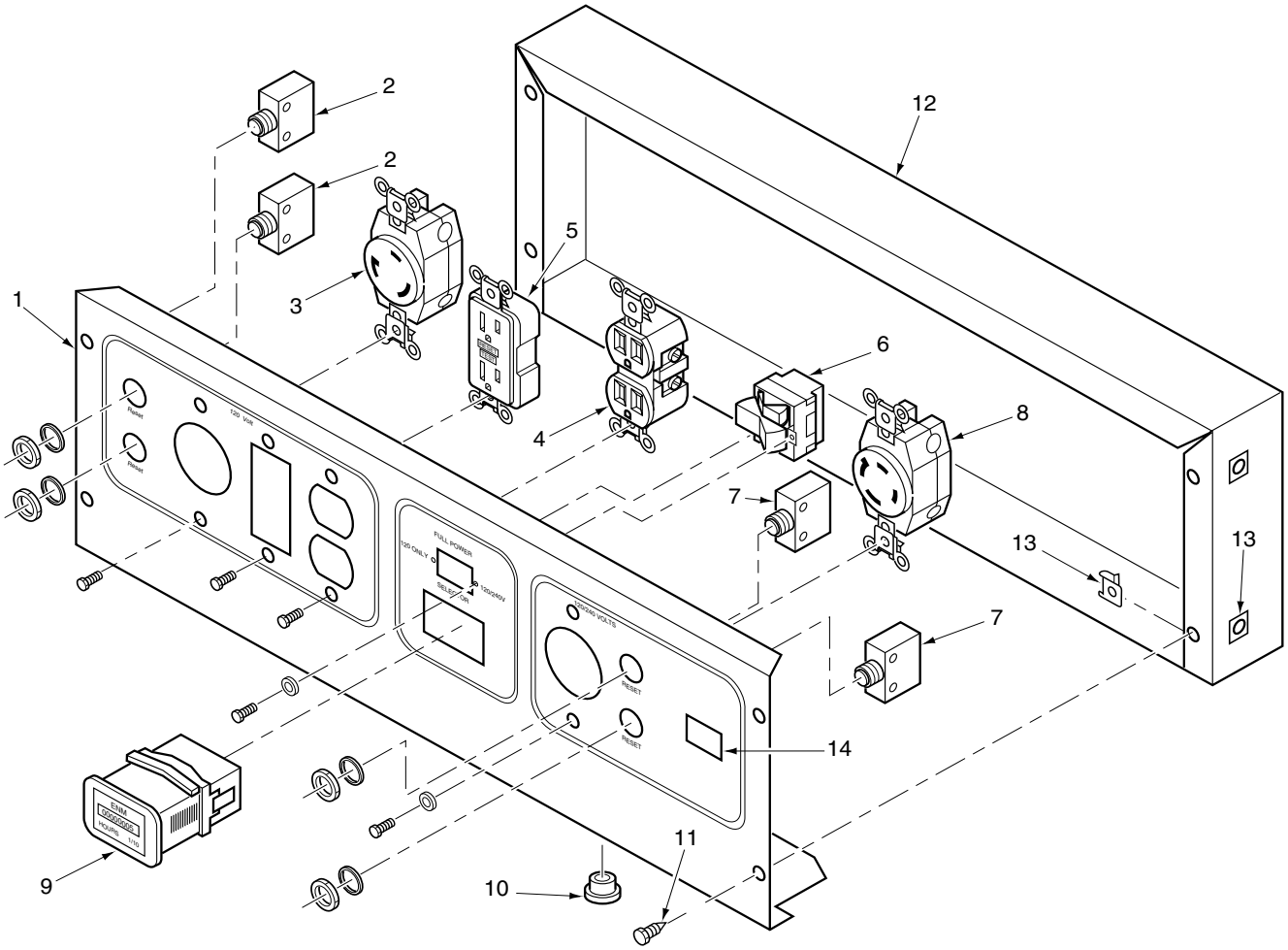

Figure 31 – Replacement Parts Illustration for Control Panel

Replacement Parts List for Control Panel

Reference Number	Description	Part No. for Models: 5U933A	5U934A	5U935A	Quantity
1	Control Panel	103349-01	103349-02	103349-04	1
2	* 20 Amp Circuit Breaker	22616009	22616009	22616009	2
3	* 120V, 30A Twist-Lock Receptacle	099833-01	099833-01	099833-01	1
4	* 120V, 15A Duplex Receptacle	15324000	15324000	15324000	1
5	* 120V, 15A Duplex (GFCI) Receptacle	100445-01	100445-01	100445-01	1
6	* Full Power Selector Switch	099956-01	099956-01	—	1
7	* 20 Amp Circuit Breaker	22616009	—	—	2
	* 25 Amp Circuit Breaker	—	22616011	—	2
	* 30Amp Circuit Breaker	—	—	22616010	2
8	* 120/240V, 20A Twist-Lock Receptacle	099834-01	099834-01	—	1
	* 120/240V, 30A Twist-Lock Receptacle	—	—	099835-01	1
9	Hour Meter	101350-01	101350-01	101350-01	1
10	Bushing	099760-01	099760-01	099760-01	1
11	#8-18 x 1/2" Sems Screw	100410-01	100410-01	100410-01	4
12	Control Box	100149-01	100149-01	100149-01	1
13	U-Nut	22261000	22261000	22261000	8
14	Switch Plug	099997-01	099997-01	099997-01	1
†	Control Panel Assembly	103348-01	103348-02	103348-04	1
†	Control Panel Assembly	103348-05	103348-06	103348-08	1
Δ	Panel Schematic Decal	100177-07	100177-07	100177-07	1

(†) Includes reference numbers 1 through 13.
(Δ) Not shown.
(*) Includes fastening hardware.

Dayton® Professional-Duty Electric Generators

Troubleshooting Chart

NOTE: See engine owner's manual for engine troubleshooting.

⚠WARNING ***Only a qualified electrical service person should service and repair generator. Use only factory approved replacement parts.***

Symptom	Possible Cause(s)	Corrective Action
No voltage when starting generator with no electrical load	1. Defective capacitor	1. Replace capacitor
	2. Winding short circuit or loose connec tions	2. Check resistance of coils (see *Electrical Component Specifications,* page 2)
	3. Defective rotor diode	3. Replace both diodes on rotor
	4. Loss of residual magnetism	4. Apply 12-volt battery to capacitor terminals for 2-3 seconds
Voltage is less than normal voltage with no electrical load	1. Engine speed too low	1. Set engine speed to 3720 RPM (62 Hz) with no load
	2. Defective rotor diode	2. Replace both diodes on rotor
	3. Partial short circuit in winding	3. Check resistance of coils (see *Electrical Component Specifications,* page 2)
	4. Defective capacitor	4. Replace capacitor
Voltage reading more than 10% high with no electrical load	1. Engine speed too high	1. Set engine speed to 3720 RPM (62 Hz) with no load
Voltage reading correct with no electrical load, but more than 10% low when electrical load is added	1. Defective rotor diode	1. Replace both diodes on rotor.
	2. Electrical load too high	2. Do not overload generator
	3. Engine not running properly	3. Contact an authorized engine service center.

NOTE: The five-year limited warranty below covers all non-engine parts of this generator including the alternator. Briggs and Stratton warrants the engine. See engine owner's manual for engine warranty information.

LIMITED WARRANTY

DAYTON FIVE-YEAR LIMITED WARRANTY. *Professional-duty Electric Generators, Models covered in this manual, are warranted by Dayton Electric Mfg. Co. (Dayton) to the original user against defects in workmanship or materials under normal use for one year after date of purchase. Any part which is determined to be defective in material or workmanship and returned to an authorized service location, as Dayton designates, shipping costs prepaid, will be, as the exclusive remedy, repaired or replaced at Dayton's option. For limited warranty claim procedures, see PROMPT DISPOSITION below. This limited warranty gives purchasers specific legal rights which vary from jurisdiction to jurisdiction.*

LIMITATION OF LIABILITY. *To the extent allowable under applicable law, Dayton's liability for consequential and incidental damages is expressly disclaimed. Dayton's liability in all events is limited to, and shall not exceed, the purchase price paid.*

WARRANTY DISCLAIMER. *Dayton has made a diligent effort to provide product information and illustrate the product in this literature accurately; however, such information and illustrations are for the sole purpose of identification, and do not express or imply a warranty that the products are MERCHANTABLE, or FIT FOR A PARTICULAR PURPOSE, or that the products will necessarily conform to the illustrations or descriptions.*
Except as provided below, no warranty or affirmation of fact, expressed or implied, other than as stated in "LIMITED WARRANTY" above is made or authorized by Dayton.

PRODUCT SUITABILITY. *Many jurisdictions have codes and regulations governing sales, construction, installation, and/or use of products for certain purposes, which may vary from those in neighboring areas. While Dayton attempts to assure that its products comply with such codes, it cannot guarantee compliance, and cannot be responsible for how the product is installed or used. Before purchase and use of a product, review the product applications, and all applicable national and local codes and regulations, and be sure that the product, installation, and use will comply with them.*

Certain aspects of disclaimers are not applicable to consumer products; e.g., (a) some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you; (b) also, some jurisdictions do not allow limitations on how long an implied warranty lasts, consequently the above limitation may not apply to you; and (c) by law, during the period of this Limited Warranty, any implied warranties of implied merchantability or fitness for a particular purpose applicable to consumer products purchased by consumers, may not be excluded or otherwise disclaimed.

PROMPT DISPOSITION. *Dayton will make a good faith effort for prompt correction or other adjustment with respect to any product which proves to be defective within limited warranty. For any product believed to be defective within limited warranty, first write or call dealer from whom product was purchased. Dealer will give additional directions. If unable to resolve satisfactorily, write to Dayton at address below, giving dealer's name, address, date and number of dealer's invoice, and describing the nature of the defect. Title and risk of loss pass to buyer on delivery to common carrier. If product was damaged in transit to you, file claim with carrier.*
Manufactured for Dayton Electric Mfg. Co., 5959 W. Howard St., Niles, Illinois 60714 U.S.A.

Manufactured for Dayton Electric Mfg. Co.
Niles, Illinois 60714 U.S.A.

105966-01
Rev. A
07/99